

## Remarks

The Office Action apparently rejected all then-pending claims (1-12) under 35 USC § 112, second paragraph, as indefinite. The Office Action specifically pointed to claims 1, 6, 7, and 12 as omitting an essential element by “not structurally defin[ing] the pumping light reflecting portion, but only describ[ing] it as having an inner space.” The Office Action also rejected claims 1, 6, 7, and 12 as obvious under 35 USC § 103(a) over the combination of U.S. Patent No. 3,611,179 to Fyler (Fyler) and a page of reference material from Engineer in Training by Lindeburg (Lindeburg). Certain remarks in the Office Action appeared to reject the remaining claims as obvious. In this paper, Applicant amends four (4) claims, adds eight (8) claims, and respectfully traverses the obviousness rejection.

As originally filed, claim 1 recited “a laser device … comprising: … a pumping light reflecting portion having an inner space filled with said fluid medium, and containing at least a part of said optical fiber thereby to confine said pumping light interiorly thereof … .” Because the Patent Office has twice determined that it cannot properly interpret that phrase, Applicant submits the above amendment to claim 1, which reads “a laser device … comprising: … a pumping light reflection portion having an interior reflective surface defining an inner space filled with said fluid medium, the inner space being substantially surrounded by said reflective surface, and the inner space containing at least a part of said optical fiber thereby to confine said pumping light interiorly thereof … .” This new text provides structure for the “pumping light reflection portion” and is believed to be fully responsive to the rejection under 35 USC § 112, second paragraph. It is noted that, since the Examiner could not determine the scope of the original text, this modified text is not (and cannot be construed to be) a narrowing amendment. Corresponding changes have been made in the other independent claims 6, 7, and 12. While it was not explicitly stated in the Office Action, it is assumed that the remaining claims were rejected based on their incorporation of the language of their respective parent claims. The present amendment is therefore believed to be responsive to the § 112 rejection of each claim. Reconsideration of all claims as amended is respectfully requested.

As mentioned above, claims 1, 6, 7, and 12 were rejected as obvious over the combination of Fyler and Lindeburg. With regard to this rejection, Applicant notes the requirements stated in the MPEP for a *prima facie* case of obviousness under 35 U.S.C. § 103(a):

[T]he examiner should set forth in the Office action:

(A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,

- (B) the difference or differences in the claim over the applied reference(s),
- (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
- (D) an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). (MPEP § 706.02(j); some citations omitted.)

It is also noted, however, that no suggestion is presented in the art to use the "notoriously well-known" (Office Action, page 3, line 8) coolant benzene in combination with the disclosure in Fyler. In fact, Fyler suggests only "liquid nitrogen or other similar coolants" (Fyler, column 2, line 52), and there has been no showing that benzene is similar to liquid nitrogen in the context of the claimed combinations. It is respectfully requested that if the present rejection is maintained, then supporting facts be supplied in the next Office Action that support an equivalence between benzene and liquid nitrogen in the context of Fyler's system.

Claims 4 and 10 (as well as new claims 15 and 19) recite that "said optical fiber comprises a material selected from the group consisting of silica glass, fluoride glass, fluorophosphate glass, chalcogenide glass, oxychalcogenide glass, phosphate glass, telluride glass, borate glass, multicomponent aluminosilicate glass and plastic." Similarly, claims 5 and 11 (and new claims 16 and 20) recite that "said laser medium is selected from the group consisting of Nd<sup>3+</sup>, Yb<sup>3+</sup>, Er<sup>3+</sup>, Pr<sup>3+</sup>, Ce<sup>3+</sup>, Tm<sup>3+</sup>, Ho<sup>3+</sup>, Tb<sup>3+</sup>, Tb<sup>3+</sup>, Dy<sup>3+</sup>, Eu<sup>3+</sup>, Eu<sup>2+</sup> and organic dye." Neither of these were shown in or suggested by the cited references, and the Office Action makes no attempt to argue from the art their combination with the elements and limitations in their respective parent claims. Because of these

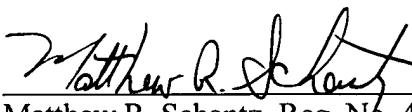
missing elements and motivations, it is respectfully requested that the patentability of claims 4, 5, 10, 11, 15, 16, 19, and 20 be reconsidered.

It is further noted that several of the claims (in their originally filed forms) were apparently not included in the rejection under § 103(a). That rejection stated, “Claims 1, 6, 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fyler (PN 3,611,179) in view of Lindeburg (Engineer in [T]raining).” (Office Action, page 2, lines 22-23 (emphasis added).) The following paragraph, however, seemed to indicate that additional claims were being rejected: “Regarding claims 1, 4-8, 10-12 [paragraph break] Figure 3 illustrates . . . .” A later line/paragraph in the Office Action simply said, “Regarding claims 2-3 and 9, [sic]” If a rejection is asserted against these claims in the next Office Action, it is respectfully requested that the disposition of claims 2-5 and 8-11 (allowable, rejected, or objected to) be expressly stated therein.

As currently presented, claims 1 and 6 recite (among other things) that “the pumping light enters said core portion through said cladding portion.” This feature is neither shown nor suggested in the cited references. Likewise, claims 7 and 12 recite, among other things, that “at least two discontinuous segments of an optical fiber” are bundled together. This feature is also neither shown nor suggested in the cited references. Reconsideration of the claims as they are now presented is respectfully requested.

Reasons expressed herein for removing or reconsidering the rejection(s) of any particular claim apply as well to those claims depending therefrom, and are hereby presented as to them as well. In view of the above discussion, it is respectfully submitted that the present application is in condition for allowance, and an early Notice of Allowance is respectfully requested. If, after reviewing this discussion, the Examiner feels that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicant’s undersigned representative by telephone to resolve such issues.

Respectfully submitted,



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